

THERMAL MANAGEMENT

# **MLC-SC Air-Cooled Scroll Chillers**

100 - 285 Tons





# The **Ultimate** Solution **For Optimal Energy Savings**

The pioneer of free-cooling chiller technology, Motivair's MLC-FC Chillers are ETL-Tested and Listed to current UL & CSA standards

The Motivair® MLC-SC-FC chillers with integrated "Free-Cooling" are designed to provide the owner with optimal performance, year round, in varying ambient temperatures.

#### **AVAILABLE MODELS**

This "Free-Cooling" option, available on all MLC-SC models and comes standard with Motivair's advanced PLC control package - a unique single package for year-round energy savings.

#### **HOW THE SYSTEM WORKS**

The high efficiency scroll compressor plant is designed to cool the designated heat load during summer months.

When ambient temperatures fall overnight or during cooler seasonal weather, the integrated "Free-Cooling" system is automatically activated.

The system operates by directing the return chilled glycol through the "Free-Cooling" coil, before it enters the evaporator.

This is achieved via an automatic motorized valve, controlled by the PLC, whenever the ambient falls below the return chilled glycol temperature set point.



E-MOTOR ROTOR

▼ [] extended\_properties

database ▼ properties

As a result, less mechanical refrigeration is required to achieve the chilled glycol set point, and the scroll compressors are staged down and eventually turned off by the PLC, which continuously monitors the system.

Energy savings in areas with cooler winter months are substantial. The ability to allow the compressors to stage off in cooler weather further drives overall chiller efficiencies.

Wear and tear on chiller components is dramatically reduced, due to fewer start-ups and running hours during winter

Automatic switching between mechanical cooling and "Free-Cooling" is seamless, which allows optimal performance year

As a general rule of thumb, "Free-Cooling" savings more than pay for the initial nvestment in the first year of operation

## **Designed with Purpose**

### **SCROLL COMPRESSORS**

Multiple high efficiency scroll compressors with R-410A refrigerant. Designed to operate at high efficiency across the entire operating range with lower sound and vibration than traditional compressors. Unique scroll compressor design allows for resistance to liquid slugging.

## **CONDESNER FAN & MOTORS**

Each fan features Electronically Commutated (EC) variable speed motor technology, globally recognized as the most efficient axial fans available in today's HVAC

More efficient than VFD speed control, EC motors offer the highest efficiencies and added chiller redundancy.

These exceptionally reliable motors feature a reversed stator and rotor, which eliminates the traditional fan motor shaft. The outer shell of the motor is the rotating body, to which the fan blades are bolted.

This unique arrangement reduces torque stress on the blades, eliminates fan blade stress fractures, maximizes airflow and maintains efficiency over the entire fan performance curve.

## **EVAPORATORS**

V-Coil profile constructed from seamless copper tubes expanded into aluminum fins creates a high efficiency design with minimal pressure drop. Coil's are easily maintained with access through removable panels.

Optional Free-Cooling features exclusive integrated condenser/free-cooling coil with ultra-low pressure drop and inherent redundancy. Modular design creates opportunities for custom coil configurations.

### **ADDITIONAL OPTIONS**

Shell and tube evaporator features two independent refrigeration circuits (optional 3 circuit design available). Low pressure drop design on both the water and refrigerant circuits creates maximum efficiency. Custom profile options allow for a wide operating range under various design conditions.



## Gain Speed to Insight with Centurion Monitoring System

Available on select Motivair chillers as an optional feature, the Centurion <sup>TM</sup> Monitoring System provides owners access to critical data and a range of safeties measures.

**FEATURES** 

1 DATA TRENDING

ADJUSTABLE WARNING THRESHOLDS

PASSWORD-PROTECTED MULTI-LEVEL ACCESS

## CENTURION MONITORING SYSTEM

This optional feature empowers the owner by providing a wide range of safeties and access to critical data from a remote location via cellular service, outside of the customer's firewall.

If the chiller is operating in an unsafe condition or in the unlikely event of an alarm, designated contacts are immediately notified by the chiller of its condition. The pending alarm can then be avoided or quickly corrected.

#### **FEATURES**:

- Data trending
- Password protected multi-level access
- Adjustable warning thresholds
- Backed by the security of AWS cloud services and T-Mobile/AT&T cellular networks

The MLC-SC range features the PCO5 control system, which is an advanced Programmable Logic Controller, with a base-operating platform that can be easily modified to adapt to various applications.

A multi-character LCD display, and easy to follow directional prompts, gives the operator complete control over all chiller functions.

Multiple digital and analog inputs as well as digital and PWM outputs offer



unparalleled control possibilities.

## **BOARD INTELLIGENT CHILLER RESPONSE**

The latest generation of Motivair® software allows the chillers to respond to system changes in real time and to adjust performance accordingly.

The proprietary control logic in the MLC-SC or MLC-SC-FC chillers provides:

- Automatic restart after a power outage
- Rapid restart of refrigeration

compressors after a power outage, while affording maximum compressor protection

- Selective decision on which compressor(s) to start first based on run-time and fastest possible response to system load
- Liquid injection to the compressors under high ambient operation
- Seamless transition between refrigeration and optional Free Cooling mode based on system load, chilled water temperature, ambient temperatures and installation profile.

#### **CONTROL FEATURES:**

- Highly visible LCD display
- Tactile push-buttons
- Adjustable alarm set points
- °F/°C selectable
- Compressor Lead/Lag control
- Anti-Compressor short cycle
- Compressor failure alarm
- Adjustable water set point
- Supply water temp. display
- Return water temp. display
- Low water temperature alarm
- Freeze alarm
- Low water/glycol flow alarm
- High water temperature alarm
- Low refrigeration pressure alarm
- High refrigeration pressure
- Irregular voltage alarm
- General Alarm Relay
- Remote Start/Stop Kelay
- Manual alarm reset
- RS 232/RS 485 communication
- Ethernet Communication
  LON, BACNET, MODBUS
  communication (optional) MLC
  & MLC-FC CONTROLS PC05
  - Display PC05



## **Application Defined Features & Options**



- Simplex (1) Pump Package Duplex (2) Pump Package Storage Tank 3x Refrigeration Circuits

- Low Noise Package
- Ultra Low Noise Package
- High Ambient Package
- Stainless Steel Cabinet Construction Condenser Coil Coating
- Security Guards for Open Areas
- Integrated Free-Cooling System



#### **STANDARD FEATURES:**

- R-410A Refrigerant
- Factory Installed Flow Switch
- Locking Disconnect Switch
- Phase and Power Monitoring
- Advanced PLC Control System
   Heavy Duty Galvanized Steel Frame with Baked Powder Epoxy Coat Finish
   Designed for Easy Service Access
- Electrical Panel Heating & Cooling System



## **Technical Specifications**



	C-SC-A CHILLER RANGE TH SCROLL COMPRESSORS	MLC-SC	200	270	340	390	460	490	510	560	600	660	690	820	930	1100	1150
Septiminary   Property   Property   Septiminary   Septim		BTU/HR	825,244	988,899	1,207,163	1,336,735	1,466,341	1,691,402	1,834,600	1,953,961	2,185,851	2,318,838	2,434,784	2,932,648	3,109,964	3,607,829	3,805,636
March Congress Grane		TON	69	82	101	111	122	141	153	163	182			244	259	301	317
Self-component region   A	e Of Refrigerant	TYPE							R-410a								
Main Charles   Grif   Main   Main Charles   Main	mber Of Refrigerating Circuits	QTY	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3
Part	al Compressor Running Current	А	112	149	160	186	217	232	260	288	301	332	365	431	482	477	521
Marca Flowfields	mber Of Compressors	QTY	4	4	4	4	4	4	6	6	6	6	6	9	9	9	9
Paralle Para	pacity Steps	QTY	4	4	4	4	4	4	4	4	4	4	4	6	6	6	6
								S	hell & Tube								
Section   Control Section																799	843
Marinar Play Decide Profess   ON   75	1 1 1 0	PSI	10	8	10	9	9	11	10	10	10	10	9	10	9	11	10
Marine Placemen Current   Marine Placemen		I/A/	7.5	11	11	implex or D	uplex Pump	Options, Co	arbon Steel	or Stainless	Steel lank	Options	20	20	CF	Cr.	Cr.
Packle Marker Negret   Packle Marker   Packl																CF CF	CF CF
Set Number   Column																CF	CF
Part																159	159
Separation   Type   Ty		O/ L		100	100	Avio	ol FC Fons & C	opper Tube	with Alum	inum Fin Co	ondenser	10 /	157	157	157	157	137
Section   Gif   4		TYPF				7-0.14	il Ec l'ulio a c	оррег гоза	FC.		JII GOII JOI						
Facing Machade Property   100   102   102   104   104   104   104   105   10			4	4	6	6	6	8		8	10	10	10	12	12	18	18
Text   Fig.			10.2	10.2	15.4		15.4	20.5		20.5			25.6			46.1	46.1
Second Prisonal and   Color   Second Prisonal and   Second Priso	Total Absorbed Current	A	15.6	15.6	23.4	23.4	23.4	31.2	31.2	31.2	39.0	39.0	39.0	46.8	46.8	70.2	70.2
Search Repair   Search Repai	al Air Flow	CFM	51,324	51,324	76,986	76,986	76,986	102,648	102,648	102,648	128,310	128,310	128,310	153,972	153,972	230,958	230,958
Description   Page																	
From Cont   Cyth Hor   Cyth Hor   R	und Pressure Level	DB(A)	68.1	70.0	70.3	70.0	72.0	73.7	71.7	<i>7</i> 1.5	73.4	74.4	75.3	73.3	74.8	76.4	77.2
Fill Load Camer (File)	CTRICAL DATA						Do	es not inclu	ıde optiona	l pump(s)							
Minimar Concenter Protects (MOP)		V/PH/HZ							460/3/60								
Modern   M																547	591
Part	1 / 1															560	606
Purple   N		MOP	163	211	234	268	309	335	346	379	403	440	480	538	596	613	664
Medical No.																	
Engight	*															471	471
Estimated Sheppin Weight   IBS   5,772   5,732   7,241   7,341   7,341   7,341   9,789   9,789   12,236   12,236   12,236   12,30   15,979   15,979   15,979   17,970   10,0																87	87
Hydroule Connection   Inlet/Oxford   N	•															96	96
Mic-Sc-FC CHILLER RANGE   Will ScG-FC   200   270   340   390   460   490   510   560   600   600   600   690   820   9																22,024	22,024
With Scotl Compressors   All-Secret   200   270   340   390   400   490   310   560   60		IIN	J	J	J	0	0	0	0	0	0	0	0	0	0	0	0
Nominal Cooling Capacity*   BILI/HR   777500   1023   1142377   1343.566   1.476.553   1.595.913   1.817.558   1933.504   2,148.253   2,274.509   2,485.943   3004.772   322   323   33   33   33   33   34   329   32   33   33   33   34   34		MLC-SC-FC	200	270	340	390	460	490	510	560	) 60	00	660	690	820	930	1100
Nominal Cooling Capacity   TON   6.5   8.5   9.5   112   123   133   151   161   179   190   207   252   2   2   2   2   3   3   3   3   3		BTLL/HR	777500	1 023 017	1 1/12 377	1 3/13 566	1 476 553	1 505 013	1 81755	8 1033	504 2 148	353 2	274 500	2.485.043 3	024 722	3,222,495	3,413,471
DOOR Free Cooling Ambient Temperature	0 1 /	,											' '			269	284
Type   Clifering-room Grant   Control   Cont	0 1 7															32	30
Number Of Refrigerating Circuits	<u> </u>	TYPE												-		-	
Number Of Compressors	mber Of Refrigerating Circuits	QTY	2	2	2	2	2	2	2	2		2	2	2	3	3	3
Capacity Steps	al Compressor Running Current	A	119	144	171	185	215	249	263	291	30	)8	339	357	416	461	509
Shell & Tube    Shell & Shel	mber Of Compressors	QTY	4	4	4	4	4	4	6	6	(	5	6	6	9	9	9
Nominal Flow Rate	pacity Steps	QTY	4	4	4	4	4	4	4	4	4	1	4	4	6	6	6
Pessure Drops (Ex-oportion + Vivies + Pipring)	APORATOR								Shell & To	ube							
F.C. Pressure Drop   F.C. Col + Exp + Violent + Piping   PSI   18   20   19   20   23   21   22   20   21   19   22   22   22   20   21   19   22   22   22   20   21   19   22   22   22   20   21   20   21   20   20	minal Flow Rate	GPM	172	227	253	298	327	354	403	428	4.	76	504	551	670	714	756
Simplex or Duplex Pump Options, Carbon Steel or Stainless Steel Tank Options	ssure Drops (Evaporator + Valves + Piping)															13	13
Maximum Pump Absorbed Fower   KW   7.5   11   11   15   15   18.5   18.5   18.5   18.5   22   22   30   30   30   C		PSI	18	20	19			21	22	20			19	22	22	23	21
Maximum Rump Absorbed Current													ns				
Avoilable External Pressure   Single   PSI   32.2   36.9   35.0   40.3   36.7   33.6   31.8   33.2   42.7   43.5   38.6   31.3   Control   Contr		V/ / /			11	1.0	15	18.5	19.5	18.5	) 2	2	22		30	CF	CF CF
Tank Volume GAL 79 100 100 132 132 132 132 132 132 159 159 159 159 159 159 159 159 159 159											0.0		00.5		50		
FANS & CONDENSER   Axial EC Fors & Copper Tube with Aluminum Fin Condenser		А	13.2	20.3	20.3	26.9	26.9	32.1	32.1	32.1						CF	
Fan Electronic Fan Speed Control   TYPE	rilable External Pressure (Single)	A PSI	13.2 32.2	20.3 36.9	20.3 35.0	26.9 40.3	26.9 36.7	32.1 33.6	32.1 31.8	32.1 33.2	2 42	2.7	43.5	38.6	31.3	CF	CF
Fan Quantity	ilable External Pressure (Single) k Volume	A PSI	13.2 32.2	20.3 36.9	20.3 35.0	26.9 40.3 132	26.9 36.7 132	32.1 33.6 132	32.1 31.8 132	32.1 33.2 132	2 42	2.7	43.5	38.6	31.3		
Fon Total Absorbed Power kW 10.2 15.4 15.4 20.5 20.5 20.5 25.6 25.6 30.7 30.7 35.8 46.1 44.   Fan Total Absorbed Current A 15.6 23.4 23.4 31.2 31.2 31.2 31.2 39.0 39.0 46.8 46.8 54.6 70.2 77.   Total Air Flow CFM 45,203 67,80.4 67,80.4 90,40.6 90,40.6 90,40.6 113,007 113,007 135,608 135,608 158,210 203,412 203.   **NOISE DATA**  **NOISE DATA**  **Distance measured in an open field at 33 feet from Condenser**  Sound Pressure Level DB(A) 68.1 70.6 70.3 70.5 72.4 73.7 72.1 71.9 73.6 74.7 75.6 74.1 73.   **Total Air Flow**  **Power Circuit**  **V/PH/HZ**  **A60/3/60**  Full Load Current (FLA) FLA 135 167 194 216 246 280 302 330 354 386 412 486 55   **Minimum Circuit Ampacity (MCA) MCA 143 176 205 228 260 296 313 342 367 400 426 498 55   **Maximum Overcurrent Protection (MOP)**  **Maximum Overcurrent Protection (MOP)**  **MOP**  **IN**  **	ilable External Pressure (Single) k Volume IS & CONDENSER	A PSI GAL	13.2 32.2	20.3 36.9	20.3 35.0	26.9 40.3 132	26.9 36.7 132	32.1 33.6 132	32.1 31.8 132 be with Alun	32.1 33.2 132	2 42	2.7	43.5	38.6	31.3	CF	CF
Fan Total Absorbed Current A 15.6 23.4 23.4 31.2 31.2 31.2 39.0 39.0 46.8 46.8 54.6 70.2 77 Total Air Flow CFM 45.203 67,804 67,804 90,406 90,406 90,406 113,007 113,007 135,608 135,608 158,210 203,412 203  **NOISE DATA**  **Distance measured in an open field at 33 feet from Condenser**  **Sound Pressure Level**  **Does not include optional pump(s)**  **Power Circuit**  **V/PH/HZ**  **Power Circuit**  **V/PH/HZ**  **Power Circuit**  **V/PH/HZ**  **Full Load Current (FLA)*  **Minimum Circuit Ampacity (MCA)*  **MCA**  **Maximum Overcurrent Protection (MOP)*  **MOP**  **MOP**  **IN**  **	illable External Pressure (Single) k Volume 15 & CONDENSER Electronic Fan Speed Control	A PSI GAL TYPE	13.2 32.2 79	20.3 36.9 100	20.3 35.0 100	26.9 40.3 132 Axi	26.9 36.7 132 al EC Fans &	32.1 33.6 132 Copper Tub	32.1 31.8 132 ne with Alun EC	32.1 33.2 132 ninum Fin C	2 42 ! 15 ondenser	2.7	43.5 159	38.6 159	31.3 159	CF 159	CF 159
Total Air Flow	illable External Pressure (Single) k Volume IS & CONDENSER Electronic Fan Speed Control Quantity	A PSI GAL TYPE QTY	13.2 32.2 79	20.3 36.9 100	20.3 35.0 100	26.9 40.3 132 Axi	26.9 36.7 132 al EC Fans &	32.1 33.6 132 Copper Tub	32.1 31.8 132 se with Alun EC 10	32.1 33.2 132 ninum Fin C	2 42 l lá ondenser	2.7	43.5 159	38.6 159	31.3 159	CF 159	CF 159
Distance measured in an open field at 33 feet from Condenser	illable External Pressure (Single) k Volume IS & CONDENSER Electronic Fan Speed Control Quantity Total Absorbed Power	A PSI GAL TYPE QTY kW	13.2 32.2 79 4 10.2	20.3 36.9 100 6 15.4	20.3 35.0 100 6 15.4	26.9 40.3 132 Axt	26.9 36.7 132 al EC Fans & 8 20.5	32.1 33.6 132 Copper Tub 8 20.5	32.1 31.8 132 9e with Alun EC 10 25.6	32.1 33.2 132 ninum Fin C	2 42 18 19 19 19 19 19 19 19 19 19 19 19 19 19	2.7 59 2	43.5 159 12 30.7	38.6 159 14 35.8	31.3 159 18 46.1	CF 159 18 46.1	CF 159 18 46.1
Sound Pressure Level   DB(A)   68.1   70.6   70.3   70.5   72.4   73.7   72.1   71.9   73.6   74.7   75.6   74.1   75.6   75.6   74.1   75.6   74.1   75.6	illable External Pressure (Single) k Volume IS & CONDENSER Electronic Fan Speed Control Quantity Total Absorbed Power Total Absorbed Current	A PSI GAL  TYPE QTY kW A	13.2 32.2 79 4 10.2 15.6	20.3 36.9 100 6 15.4 23.4	20.3 35.0 100 6 15.4 23.4	26.9 40.3 132 Axi 8 20.5 31.2	26.9 36.7 132 al EC Fans & 8 20.5 31.2	32.1 33.6 132 Copper Tub 8 20.5 31.2	32.1 31.8 132 se with Alun EC 10 25.6 39.0	32.1 33.2 132 ninum Fin C 10 25.6 39.0	2 42 ! 13 ondenser 1 5 30	2.7 59 2 2 0.7 0.8	12 30.7 46.8	38.6 159 14 35.8 54.6	31.3 159 18 46.1 70.2	CF 159 18 46.1 70.2	CF 159 18 46.1 70.2
Power Circuit   V/PH/HZ	illable External Pressure (Single) k Volume IS & CONDENSER Electronic Fan Speed Control Quantity Total Absorbed Power Total Absorbed Current al Air Flow	A PSI GAL  TYPE QTY kW A	13.2 32.2 79 4 10.2 15.6	20.3 36.9 100 6 15.4 23.4	20.3 35.0 100 6 15.4 23.4	26.9 40.3 132 Axi 8 20.5 31.2	26.9 36.7 132 al EC Fans & 8 20.5 31.2	32.1 33.6 132 Copper Tub 8 20.5 31.2 90,406	32.1 31.8 132 16 with Alun EC 10 25.6 39.0	32.1 33.2 132 ninum Fin C 10 25.6 39.0 7 113,00	2 42 condenser	2.7 59 2 2 2 0.7 5.8 608	12 30.7 46.8	38.6 159 14 35.8 54.6	31.3 159 18 46.1 70.2	CF 159 18 46.1	CF 159 18 46.1
Power Circuit   V/PH/HZ	illable External Pressure (Single) k Volume IS & CONDENSER Electronic Fan Speed Control Quantity Total Absorbed Power Total Absorbed Current al Air Flow ISE DATA	A PSI GAL  TYPE QTY kW A CFM	13.2 32.2 79 4 10.2 15.6 45,203	20.3 36.9 100 6 15.4 23.4 67,804	20.3 35.0 100 6 15.4 23.4 67,804	26.9 40.3 132 Axi 8 20.5 31.2 90,406	26.9 36.7 132 al EC Fans & 8 20.5 31.2 90,406 istance meas	32.1 33.6 132 Copper Tub 8 20.5 31.2 90,406 ured in an	32.1 31.8 132 14 with Alun EC 10 25.6 39.0 113,000	32.1 33.2 132 ninum Fin C 10 25.6 39.0 7 113,00 ti 33 feet fr	2 42 15 ondenser  1 3 30 30 40 707 135, ppm Conden	2.7 59 2 2 0.7 0.8 608	12 30.7 46.8 135,608	38.6 159 14 35.8 54.6 158,210	31.3 159 18 46.1 70.2 203,412	CF 159 18 46.1 70.2 203,412	CF 159 18 46.1 70.2 203,412
Full Load Current (FLA)         FLA         135         167         194         216         246         280         302         330         354         386         412         486         5           Minimum Circuit Ampacity (MCA)         MCA         143         176         205         228         260         296         313         342         367         400         426         498         5           Maximum Overcurrent Protection (MOP)         MOP         172         212         248         274         314         358         357         391         418         457         486         544         55           DIMENSIONS & WEIGHTS         IN         127         178         178         230         230         230         281         281         332         332         383         471         4           Width         IN         87	illable External Pressure (Single) k Volume IS & CONDENSER Electronic Fan Speed Control Quantity Total Absorbed Power Total Absorbed Current al Air Flow ISE DATA und Pressure Level	A PSI GAL  TYPE QTY kW A CFM	13.2 32.2 79 4 10.2 15.6 45,203	20.3 36.9 100 6 15.4 23.4 67,804	20.3 35.0 100 6 15.4 23.4 67,804	26.9 40.3 132 Axi 8 20.5 31.2 90,406	26.9 36.7 132 al EC Fans & 8 20.5 31.2 90,406 istance meas 72.4	32.1 33.6 132 Copper Tub 8 20.5 31.2 90,406 ured in an 73.7	32.1 31.8 132 se with Alun EC 10 25.6 39.0 113,000 open field c	32.1 33.2 132 ninum Fin C 10 25.6 39.0 7 113,00 7 171,9	2 42 condenser	2.7 59 2 2 0.7 0.8 608	12 30.7 46.8 135,608	38.6 159 14 35.8 54.6 158,210	31.3 159 18 46.1 70.2 203,412	CF 159 18 46.1 70.2	CF 159 18 46.1 70.2
Minimum Circuit Ampacity (MCA)   MCA   143   176   205   228   260   296   313   342   367   400   426   498   55	illable External Pressure (Single) k Volume IS & CONDENSER Electronic Fan Speed Control Quantity Total Absorbed Power Total Absorbed Current al Air Flow ISE DATA und Pressure Level CTRICAL DATA	A PSI GAL  TYPE QTY kW A CFM	13.2 32.2 79 4 10.2 15.6 45,203	20.3 36.9 100 6 15.4 23.4 67,804	20.3 35.0 100 6 15.4 23.4 67,804	26.9 40.3 132 Axi 8 20.5 31.2 90,406	26.9 36.7 132 al EC Fans & 8 20.5 31.2 90,406 istance meas 72.4	32.1 33.6 132 Copper Tub 8 20.5 31.2 90,406 ured in an 73.7	32.1 31.8 132 be with Alun EC 10 25.6 39.0 113,00: open field o	32.1 33.2 132 132 100 100 25.6 39.7 113,000 1133 feet fr 71.9 101 101 102 103 103 103 104 104 105 105 105 105 105 105 105 105 105 105	2 42 condenser	2.7 59 2 2 0.7 0.8 608	12 30.7 46.8 135,608	38.6 159 14 35.8 54.6 158,210	31.3 159 18 46.1 70.2 203,412	CF 159 18 46.1 70.2 203,412	CF 159 18 46.1 70.2 203,412
Maximum Overcurrent Protection (MOP)         MOP         172         212         248         274         314         358         357         391         418         457         486         544         55           DIMENSIONS & WEIGHTS           Length         IN         127         178         178         230         230         230         281         281         332         332         383         471         4           Width         IN         87	illable External Pressure (Single) k Volume IS & CONDENSER Electronic Fan Speed Control Quantity Total Absorbed Power Total Absorbed Current all Air Flow ISE DATA und Pressure Level CTRICAL DATA	A PSI GAL  TYPE QTY kW A CFM  DB(A)	13.2 32.2 79 4 10.2 15.6 45,203	20.3 36.9 100 6 15.4 23.4 67,804	20.3 35.0 100 6 15.4 23.4 67,804	26.9 40.3 132 Axi 8 20.5 31.2 90,406	26.9 36.7 132 al EC Fans & 8 20.5 31.2 90,406 istance meas 72.4	32.1 33.6 132 Copper Tub 8 20.5 31.2 90,406 ured in an 73.7 Does not in	32.1 31.8 132 12 with Alun EC 10 25.6 39.0 113,000 open field c 72.1 clude optio	32.1 33.2 132 132 130 100 25.6 39.0 7 113.00 1133 feet frr 71.9 110 33 feet frr 60	2 42 1 12 12 12 13 12 14 12 15 30 16 30 17 135 18 12 19 12 10	2.7 59 2 2 2.7 5.8 6.608 5 608	12 30.7 46.8 135,608	38.6 159 14 35.8 54.6 158,210 75.6	31.3 159 18 46.1 70.2 203,412	CF 159 18 46.1 70.2 203,412	CF 159 18 46.1 70.2 203,412
DIMENSIONS & WEIGHTS           Length         IN         127         178         178         230         230         230         281         281         332         332         383         471         4           Width         IN         87         87         87         87         87         87         87         87         87         87         87         87         87         87         87         87         96	illable External Pressure (Single) k Volume IS & CONDENSER Electronic Fan Speed Control Quantity Total Absorbed Power Total Absorbed Current all Air Flow ISE DATA und Pressure Level CTRICAL DATA ver Circuit Load Current (FLA)	A PSI GAL  TYPE QTY kW A CFM  DB(A)	13.2 32.2 79 4 10.2 15.6 45,203 68.1	20.3 36.9 100 6 15.4 23.4 67,804 70.6	20.3 35.0 100 6 15.4 23.4 67,804 70.3	26.9 40.3 132 Axi 8 20.5 31.2 90,406 D 70.5	26.9 36.7 132 al EC Fans & 8 20.5 31.2 90,406 istance meas 72.4	32.1 33.6 132 Copper Tub 8 20.5 31.2 90,406 ured in an 73.7 Does not in	32.1 31.8 132 12 with Alun EC 10 25.6 39.0 113,000 open field of 72.1 idlude optio 460/3/ 302	32.1 33.2 132 132 132 132 130 10 10 25.6 39.6 7 113,00 11 33 feet for 71.9 10 33 feet for	2 42 1 12 1 13 1 13 1 15 1 16 1 17 1 17	2.7 59 2 2 2.7 5.8 608 5er 3.6	12 30.7 46.8 135,608 74.7	38.6 159 14 35.8 54.6 158,210 75.6	31.3 159 18 46.1 70.2 203,412 74.1	CF 159 18 46.1 70.2 203,412	CF 159 18 46.1 70.2 203,412
Length         IN         127         178         178         230         230         230         281         281         332         332         383         471         4           Width         IN         87         87         87         87         87         87         87         87         87         87         87         87         87         87         87         87         96 <td>illable External Pressure (Single) k Volume  IS &amp; CONDENSER  Electronic Fan Speed Control  Quantity  Total Absorbed Power  Total Absorbed Current al Air Flow  ISE DATA  und Pressure Level  CTRICAL DATA  ver Circuit  Load Current (FLA)  inimum Circuit Ampacity (MCA)</td> <td>A PSI GAL  TYPE QTY kW A CFM  DB(A)  V/PH/HZ FLA MCA</td> <td>13.2 32.2 79 4 10.2 15.6 45,203 68.1</td> <td>20.3 36.9 100 6 15.4 23.4 67,804 70.6</td> <td>20.3 35.0 100 6 15.4 23.4 67,804 70.3</td> <td>26.9 40.3 132 Axi 8 20.5 31.2 90,406 D 70.5</td> <td>26.9 36.7 132 al EC Fans &amp; 8 20.5 31.2 90,406 istance meas 72.4</td> <td>32.1 33.6 132 Copper Tub 8 20.5 31.2 90,406 ured in on 73.7 Does not in</td> <td>32.1 31.8 132 12 with Alun EC 10 25.6 39.0 113,000 open field of 72.1 idude optio 460/3/ 302 313</td> <td>32.1 33.2 132 132 132 130 100 10 25.6 39.6 7 113,00 11 33 feet for 71.9 10 10 33 feet for 33 feet for 342</td> <td>2 42 1 12 condenser  1 1 5 30 5 30 6 30 7 135, ppm Condenser  1 2 30 2 30 2 30</td> <td>2.7 59 2 2 2.0.7 5.8 608 5 er 3.6</td> <td>12 30.7 46.8 135,608 74.7</td> <td>38.6 159 14 35.8 54.6 158,210 75.6</td> <td>31.3 159 18 46.1 70.2 203,412 74.1 486 498</td> <td>CF 159 18 46.1 70.2 203,412 75.4</td> <td>CF 159 18 46.1 70.2 203,412 76.4</td>	illable External Pressure (Single) k Volume  IS & CONDENSER  Electronic Fan Speed Control  Quantity  Total Absorbed Power  Total Absorbed Current al Air Flow  ISE DATA  und Pressure Level  CTRICAL DATA  ver Circuit  Load Current (FLA)  inimum Circuit Ampacity (MCA)	A PSI GAL  TYPE QTY kW A CFM  DB(A)  V/PH/HZ FLA MCA	13.2 32.2 79 4 10.2 15.6 45,203 68.1	20.3 36.9 100 6 15.4 23.4 67,804 70.6	20.3 35.0 100 6 15.4 23.4 67,804 70.3	26.9 40.3 132 Axi 8 20.5 31.2 90,406 D 70.5	26.9 36.7 132 al EC Fans & 8 20.5 31.2 90,406 istance meas 72.4	32.1 33.6 132 Copper Tub 8 20.5 31.2 90,406 ured in on 73.7 Does not in	32.1 31.8 132 12 with Alun EC 10 25.6 39.0 113,000 open field of 72.1 idude optio 460/3/ 302 313	32.1 33.2 132 132 132 130 100 10 25.6 39.6 7 113,00 11 33 feet for 71.9 10 10 33 feet for 33 feet for 342	2 42 1 12 condenser  1 1 5 30 5 30 6 30 7 135, ppm Condenser  1 2 30 2 30 2 30	2.7 59 2 2 2.0.7 5.8 608 5 er 3.6	12 30.7 46.8 135,608 74.7	38.6 159 14 35.8 54.6 158,210 75.6	31.3 159 18 46.1 70.2 203,412 74.1 486 498	CF 159 18 46.1 70.2 203,412 75.4	CF 159 18 46.1 70.2 203,412 76.4
Width         IN         87	islable External Pressure (Single) k Volume  IS & CONDENSER  Electronic Fan Speed Control  Quantity  Total Absorbed Power  Total Absorbed Current al Air Flow  ISE DATA  Ind Pressure Level  CTRICAL DATA  Ver Circuit  Load Current (FLA)  Inimum Circuit Ampacity (MCA)  ximum Overcurrent Protection (MOP)	A PSI GAL  TYPE QTY kW A CFM  DB(A)  V/PH/HZ FLA MCA	13.2 32.2 79 4 10.2 15.6 45,203 68.1	20.3 36.9 100 6 15.4 23.4 67,804 70.6	20.3 35.0 100 6 15.4 23.4 67,804 70.3	26.9 40.3 132 Axi 8 20.5 31.2 90,406 D 70.5	26.9 36.7 132 al EC Fans & 8 20.5 31.2 90,406 istance meas 72.4	32.1 33.6 132 Copper Tub 8 20.5 31.2 90,406 ured in on 73.7 Does not in	32.1 31.8 132 12 with Alun EC 10 25.6 39.0 113,000 open field of 72.1 idude optio 460/3/ 302 313	32.1 33.2 132 132 132 130 100 10 25.6 39.6 7 113,00 11 33 feet for 71.9 10 10 33 feet for 33 feet for 342	2 42 1 12 condenser  1 1 5 30 5 30 6 30 7 135, ppm Condenser  1 2 30 2 30 2 30	2.7 59 2 2 2.0.7 5.8 608 5 er 3.6	12 30.7 46.8 135,608 74.7	38.6 159 14 35.8 54.6 158,210 75.6	31.3 159 18 46.1 70.2 203,412 74.1 486 498	CF 159 18 46.1 70.2 203,412 75.4	CF 159 18 46.1 70.2 203,412 76.4
	illable External Pressure (Single) k Volume  IS & CONDENSER  Electronic Fan Speed Control  Quantity  Total Absorbed Power  Total Absorbed Current al Air Flow  ISE DATA  INTERPRESSURE Level  CTRICAL DATA  Ver Circuit  Load Current (FLA)  Inimum Circuit Ampacity (MCA)  ximum Overcurrent Protection (MOP)  IENSIONS & WEIGHTS	A PSI GAL  TYPE GTY kW A CFM  DB(A)  V/PH/HZ FLA MCA MOP	13.2 32.2 79 4 10.2 15.6 45,203 68.1	20.3 36.9 100 6 15.4 23.4 67,804 70.6	20.3 35.0 100 6 15.4 23.4 67,804 70.3	26.9 40.3 132 Axi 8 20.5 31.2 90,406 D 70.5 216 228 274	26.9 36.7 132 al EC Fans & 8 20.5 31.2 90,406 istance meas 72.4 246 260 314	32.1 33.6 132 Copper Tub 8 20.5 31.2 90.406 ured in an 73.7 Does not in	32.1 31.8 132 12 with Alun EC 10 25.6 39.0 113,000 open field c 72.1 clude optio 460/3/ 302 313 357	32.1 33.2 33.2 132 132 130 100 10 25.6 39.0 7 113,000 11 33 feet fr 71.9 100 330 330 330 330 330 330	2 42 10 ondenser  1 1 5 30 5 30 7 135 5 7 7 135 7 135 7 1 3 3 2 3 4	2.7 59 2.7 5.8 6.08 6.6 8.6 6.6	12 30.7 46.8 135,608 74.7 386 400 457	38.6 159 14 35.8 54.6 158,210 75.6	31.3 159 18 46.1 70.2 203,412 74.1 486 498 544	CF 159 18 46.1 70.2 203,412 75.4	CF 159 18 46.1 70.2 203,412 76.4
Estimated. Shipping Weight LBS. 5,732 7,341 7,341 9,789 9,789 12,236 12,236 14,683 14,683 17,086 22,024 22	illable External Pressure (Single) k Volume  IS & CONDENSER  Electronic Fan Speed Control  Quantity  Total Absorbed Power  Total Absorbed Current al Air Flow  ISE DATA  INTERPRETATION  INTER	A PSI GAL  TYPE GTY kW A CFM  DB(A)  V/PH/HZ FLA MCA MOP	13.2 32.2 79 4 10.2 15.6 45,203 68.1 135 143 172	20.3 36.9 100 6 15.4 23.4 67,804 70.6	20.3 35.0 100 6 15.4 23.4 67,804 70.3	26.9 40.3 132 Axi 8 20.5 31.2 90,406 D 70.5 216 228 274	26.9 36.7 132 al EC Fans & 8 20.5 31.2 90,406 istance meas 72.4 246 260 314	32.1 33.6 132 Copper Tub 8 20.5 31.2 90,406 ured in on 73.7 Does not in 280 296 358	32.1 31.8 132 12 we with Alun EC 10 25.6 39.0 113,000 copen field o 460/3/ 302 313 357	32.1 33.2 132 132 100 100 25.6 39.0 7 113,00 11 33 feet for 71.9 33 feet for 33 feet for 33 feet for 33 feet for 33 feet for 33 feet for 34 feet for 35 feet for 36 feet for 37 feet for 37 feet for 38 feet for 3	2 422 1 12 1 13 1 16 1 16 1 3 3 1 3 3 2 3 3 3 3	2.7 59 2.7 59 2.0.7 5.8 6008 5.6 5.6 5.4 5.7 18	43.5 159 12 30.7 46.8 135,608 74.7 386 400 457	38.6 159 14 35.8 54.6 158,210 75.6 412 426 486	31.3 159 18 46.1 70.2 203,412 74.1 486 498 544	CF 159 18 46.1 70.2 203,412 75.4 531 544 596	CF 159 18 46.1 70.2 203,412 76.4 579 593 650
	illable External Pressure (Single) k Volume  IS & CONDENSER  Electronic Fan Speed Control  Quantity  Total Absorbed Power  Total Absorbed Current al Air Flow  ISE DATA  INTERPRESSURE Level  CTRICAL DATA  Ver Circuit  Load Current (FLA)  Inimum Circuit Ampacity (MCA)  IXENSIONS & WEIGHTS  gth	A PSI GAL  TYPE QTY kW A CFM  DB(A)  V/PH/HZ FLA MCA MOP	13.2 32.2 79 4 10.2 15.6 45,203 68.1 135 143 172	20.3 36.9 100 6 15.4 23.4 67,804 70.6	20.3 35.0 100 6 15.4 23.4 67,804 70.3 194 205 248	26.9 40.3 132 Axi 8 20.5 31.2 90,406 D 70.5 216 228 274 230 87	26.9 36.7 132 al EC Fans & 8 20.5 31.2 90,406 istance meas 72.4 246 260 314	32.1 33.6 132 Copper Tub 8 20.5 31.2 90,406 ured in an 73.7 Does not in 280 296 358	32.1 31.8 132 120 with Alun EC 10 25.6 39.0 133,000 open field of 72.1 vidude optio 460/3/ 302 313 357	32.1 33.2 33.2 132 132 132 132 130 100 25.5 39.0 39.0 133 feet for 71.9 14 33 feet for 33.4 331 331 331 331 281	2 422 422 423	2.7 59 2 2 2 2 0.7 8 8 6 6 0 8 8 5 9 1 8 6 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1	43.5 159 12 30.7 46.8 135,608 74.7 386 400 457	38.6 159 14 35.8 54.6 158,210 75.6 412 426 486	31.3 159 18 46.1 70.2 2203,412 74.1 486 498 544	CF 159 18 46.1 70.2 203,412 75.4 531 544 596	CF 159 18 46.1 70.2 203,412 76.4 579 593 650
Hydraulic Connections IN 5 5 5 6 6 6 6 6 6 8 8	illable External Pressure (Single) k Volume  IS & CONDENSER  Electronic Fan Speed Control Quantity Total Absorbed Power Total Absorbed Current al Air Flow  ISE DATA  wind Pressure Level CCTRICAL DATA  ver Circuit Load Current (FLA)  wimum Circuit Ampacity (MCA)  xximum Overcurrent Protection (MOP)  IENSIONS & WEIGHTS  gth  dth	A PSI GAL  TYPE QTY kW A CFM  DB(A)  V/PH/HZ FLA MCA MOP  IN IN	13.2 32.2 79 4 10.2 15.6 45,203 68.1 135 143 172 127 87 96	20.3 36.9 100 6 15.4 23.4 67,804 70.6	20.3 35.0 100 6 15.4 23.4 67,804 70.3 194 205 248 178 87 96	26.9 40.3 132 Axi 8 20.5 31.2 90,406 D 70.5 216 228 274 230 87 96	26.9 36.7 132 al EC Fans & 8 20.5 31.2 90,406 istance meas 72.4 246 260 314	32.1 33.6 132 Copper Tub 8 20.5 31.2 90,406 ured in an 73.7 Daes not in 280 296 358	32.1 31.8 132 12 we with Alun EC 10 25.6 39.0 113,000 open field of 72.1 victude optio 460/3/ 302 313 357	32.1 33.2 33.2 33.2 132 132 132 130 100 25.5 39.0 39.0 133 feet for 71.9 433 feet for 33.0 332 331 331 281 87 96	2 422 422 422 12 12 12 12 12 12 12 12 12 12 12 12 1	2.7 59 2 2 2 2 2 2 2 3 5 4 6 6 8 8 6 6 8 6 8 6 7 8 8 8 8 8 8 8 8 8	43.5 159 12 30.7 46.8 135,608 74.7 386 400 457 332 87 96	38.6 159 14 35.8 54.6 158,210 75.6 412 426 486 383 87 96	31.3 159 18 46.1 70.2 2203,412 74.1 486 498 544 471 87 96	CF 159 18 46.1 70.2 203,412 75.4 531 544 596	CF 159 18 46.1 70.2 203,412 76.4 579 593 650

<sup>\*</sup>Performance rated at 44°F outlet water, 54°F Inlet Water, 95°F Ambient, 100% water. Chiller capacity changes with operating conditions, consult Motivair for assistance. Location and installation of equipment by others © 2022 Motivair Corporation. Motivair reserves the right to modify specifications without notice. Reproduction of this brochure in whole or in part is prohibited.



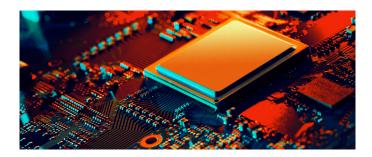
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